UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Drawings

Sheet 3, replace Fig. 2B with the figure depicted below, wherein in step 56 "IN THE IN THE" has been changed to --IN THE--

FIG. 2B

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.   : 7,356,416 B2
APPLICATION NO. : 09/768686
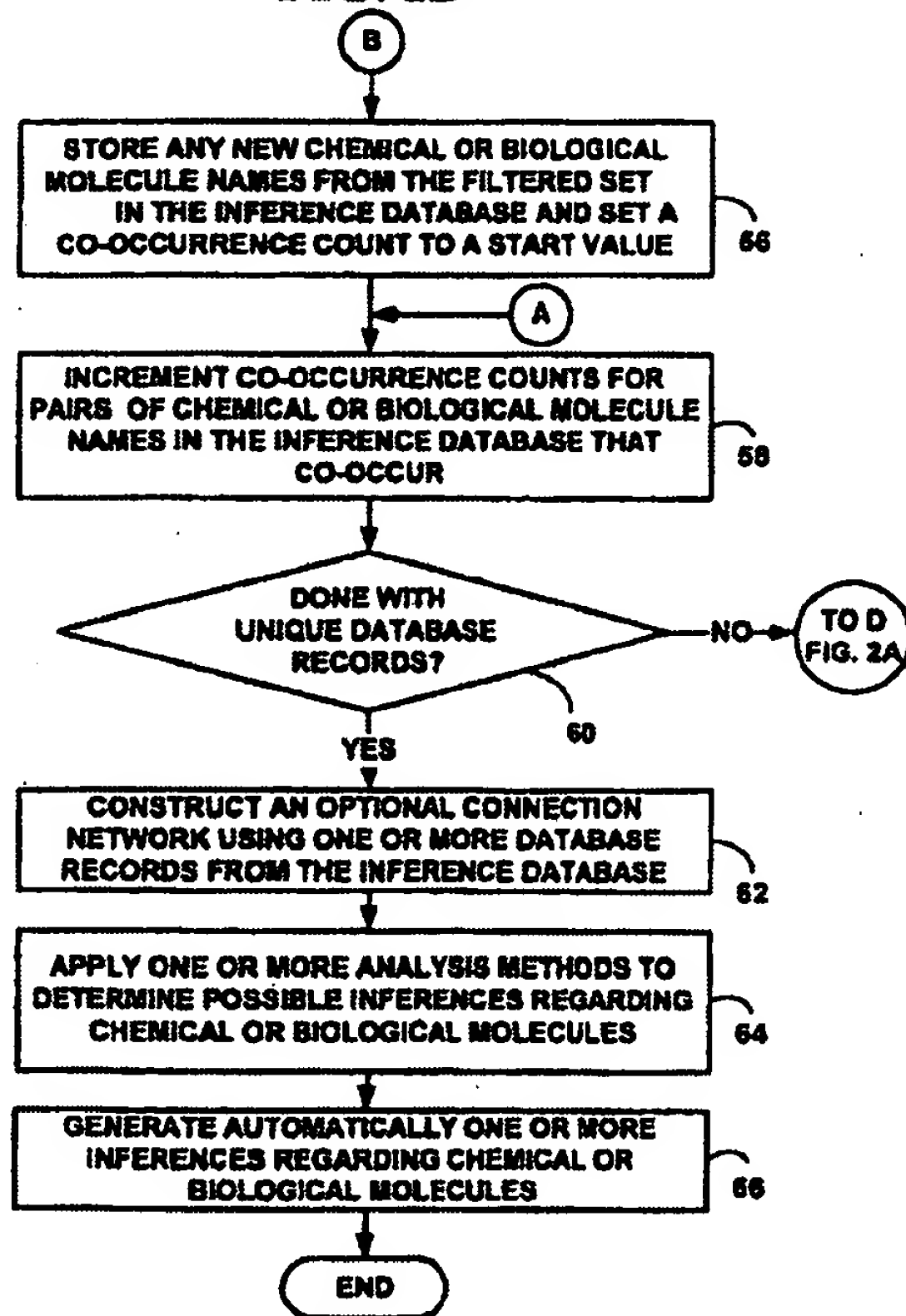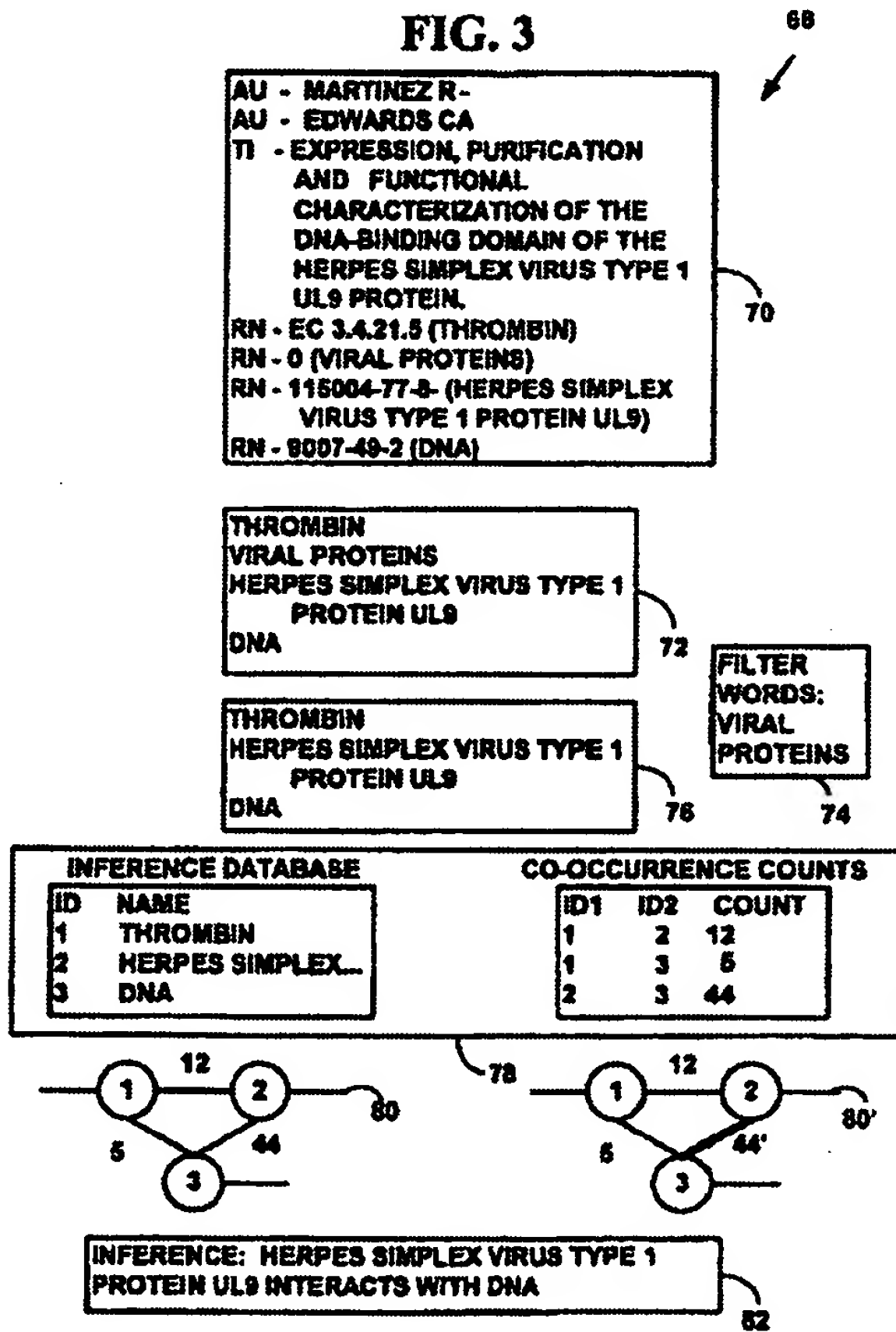DATED   : April 8, 2008
INVENTOR(S)   : William B. Busa

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Sheet 4, replace Fig. 3 with the figure depicted below, wherein in box 78, "4" has been changed to --5--

FIG. 3

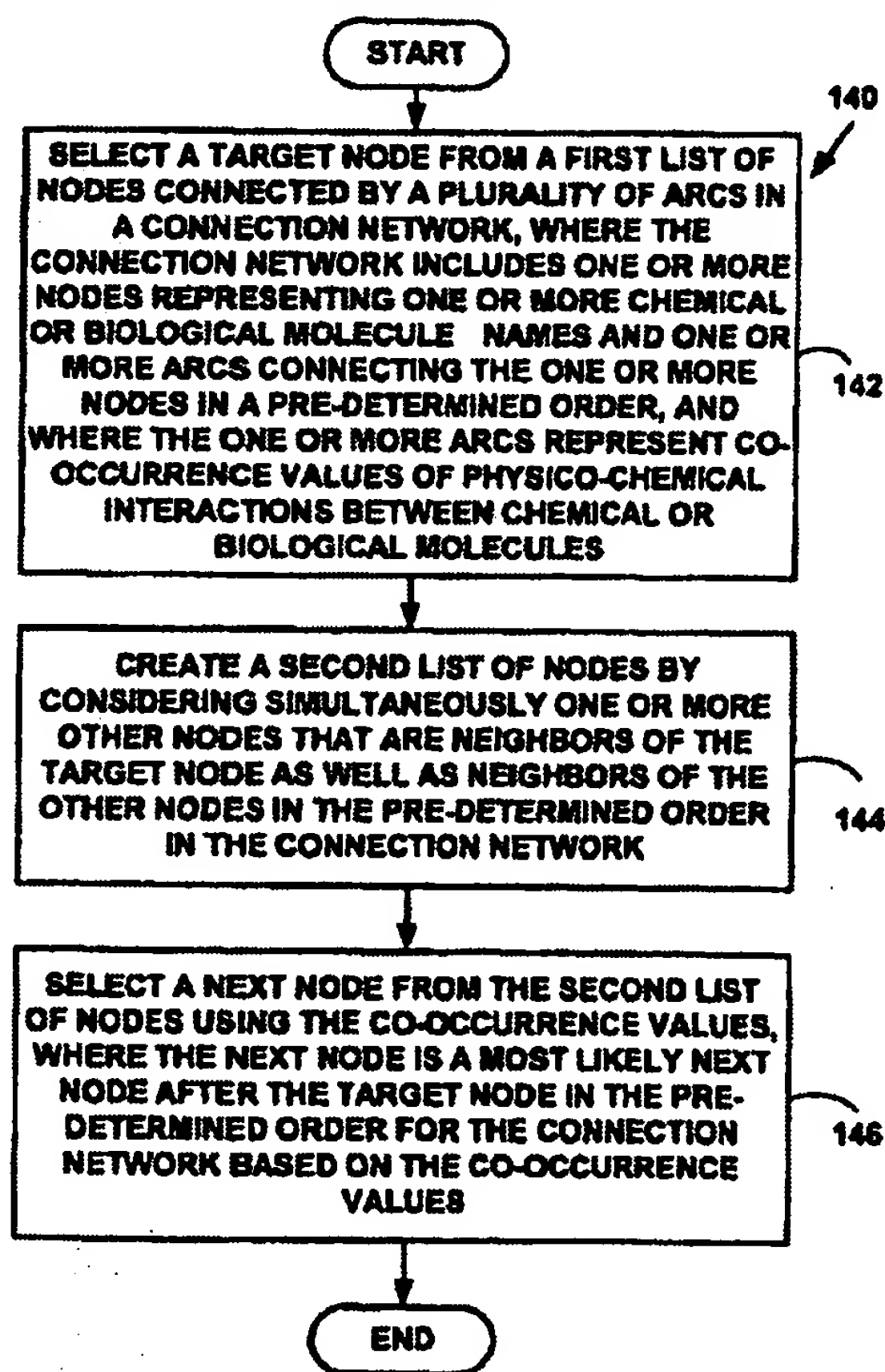# UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO.   : 7,356,416 B2
APPLICATION NO. : 09/768686
DATED   : April 8, 2008
INVENTOR(S)   : William B. Busa

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Sheet 8, replace Fig. 7 with the figure depicted below, wherein in step 142 "MOLECULES NAMES" has been changed to --MOLECULE NAMES--

FIG. 7

START

140

142 — SELECT A TARGET NODE FROM A FIRST LIST OF NODES CONNECTED BY A PLURALITY OF ARCS IN A CONNECTION NETWORK, WHERE THE CONNECTION NETWORK INCLUDES ONE OR MORE NODES REPRESENTING ONE OR MORE CHEMICAL OR BIOLOGICAL MOLECULE NAMES AND ONE OR MORE ARCS CONNECTING THE ONE OR MORE NODES IN A PRE-DETERMINED ORDER, AND WHERE THE ONE OR MORE ARCS REPRESENT CO-OCCURRENCE VALUES OF PHYSICO-CHEMICAL INTERACTIONS BETWEEN CHEMICAL OR BIOLOGICAL MOLECULES

144 — CREATE A SECOND LIST OF NODES BY CONSIDERING SIMULTANEOUSLY ONE OR MORE OTHER NODES THAT ARE NEIGHBORS OF THE TARGET NODE AS WELL AS NEIGHBORS OF THE OTHER NODES IN THE PRE-DETERMINED ORDER IN THE CONNECTION NETWORK

146 — SELECT A NEXT NODE FROM THE SECOND LIST OF NODES USING THE CO-OCCURRENCE VALUES, WHERE THE NEXT NODE IS A MOST LIKELY NEXT NODE AFTER THE TARGET NODE IN THE PRE-DETERMINED ORDER FOR THE CONNECTION NETWORK BASED ON THE CO-OCCURRENCE VALUES
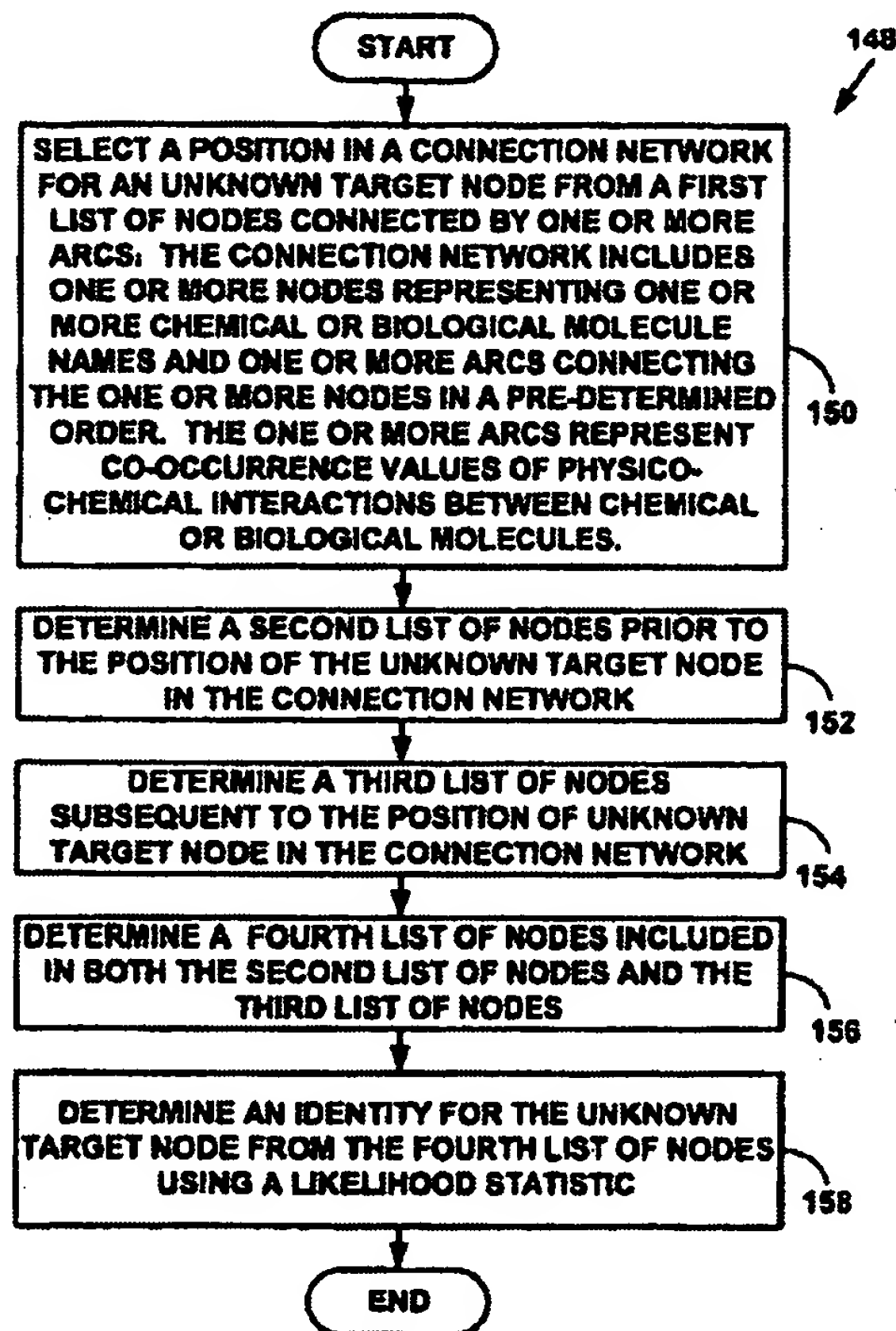
END

PATENT NO.   : 7,356,416 B2   Page 4 of 7
APPLICATION NO. : 09/768686
DATED   : April 8, 2008
INVENTOR(S)   : William B. Busa

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Sheet 9, replace Fig. 8 with the figure depicted below, wherein in step 150 "MOLECULES NAMES" has been changed to --MOLECULE NAMES--

FIG. 8

PATENT NO.   : 7,356,416 B2   Page 5 of 7
APPLICATION NO. : 09/768686
DATED   : April 8, 2008
INVENTOR(S)   : William B. Busa

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 3
Line 23, change ""Bioknowlege Library" This" to --"Bioknowlege Library." This--

Column 5
Lines 16-17, change "checking automatically" to --automatically checking--

Column 8
Line 57, change "20 analysis." to --analysis.--

Column 9
Table 1, in the twenty-fourth entry, change "0 (serotonin 10 receptor)" to --0 (serotonin 1C receptor)-- as depicted herein below.

RN -   0 (serotonin 1C receptor)

Column 9
Table 1, in the forty-seventh entry, change the multiple instances of "P1" to --PI-- as depicted herein below.

AB -   Recent studies have established a role for the phosphoinositide (PI) cycle in the early patterning of Xenopus mesoderm. In explants, stimulation of this pathway in the absence of growth factors does not induce mesoderm, but when accompanied by growth factor treatment, simultaneous PI cycle stimulation results in profound morphological and molecular changes in the mesoderm induced by the growth factor. This suggests the possibility that the PI cycle exerts its influence via crosstalk, by modulating some primary mesoderm-inducing pathway. Given recent identification of mitogen-activated protein kinase (MAPK) as an intracellular mediator of some mesoderm-inducing signals, the present study explores MAPK as a potential site of PI cycle-mediated crosstalk. We report that MAPK activity, like PI cycle activity, increases in intact embryos during mesoderm induction. Phosphoinositide cycle stimulation during treatment of explants with basic fibroblast growth factor (bFGF) synergistically increases late-phase MAPK activity and potentiates bFGF-induced expression of Xbra, a MAPK-dependent mesodermal marker.

Column 11
Line 10, change "in included the set" to --included in the set--
Line 51, change "as to" to --to--

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Column 14
Line 25, change "84" to --82--

Column 16
Line 42, change "P($\neg$A$|\neg$B) a" to --P($\neg$A$|\neg$B) $\equiv$ a--
Line 64, change "network 82" to --network 80--

Column 18
Line 51, change "molecules names" to --molecule names--

Column 19
Line 26, change "Node F," to --Node F 124,--
Line 29, change "122" to --124--

Column 20
Replace Table 4 with the table depicted below, wherein "WHERE Chem 1 = 'A'" has been changed to --WHERE CHEM_1 = 'A'--

TABLE 4

```
SELECT Chem_2, Likelihood FROM Chem_Pairs
WHERE Chem_1 = 'F' AND Chem_2 IN
(SELECT Chem_2 FROM Chem_Pairs
WHERE Chem_1 = 'D' AND Chem_2 IN
(SELECT Chem_2 FROM Chem_Pairs
WHERE Chem_1 = 'A'))
```

Column 21
Line 14, change "molecules names" to --molecule names--

Replace Table 5 with the table depicted below, wherein: "WHERE Chem_1 = '0' AND CHEM_2 IN" has been changed to --WHERE Chem_1 = 'D' AND Chem_2 IN-- and the second "(SELECT Chem_2 FROM Chem_Pairs" has been changed to --(SELECT Chem_2 FROM Chem_Pairs)--

TABLE 5

```
SELECT Chem_2, Likelihood FROM Chem_Pairs
WHERE Chem_1 = 'D' AND Chem_2 IN
(SELECT Chem_2 FROM Chem_Pairs
WHERE Chem_1 = 'A')

And

SELECT Chem_2, Likelihood FROM Chem_Pairs
WHERE Chem 1 = 'F' AND Chem_2 IN
(SELECT Chem_2 FROM Chem_Pairs)
```

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It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Column 23
Line 6, change ""signal transduction.","" to --"signal transduction,"--

Column 24
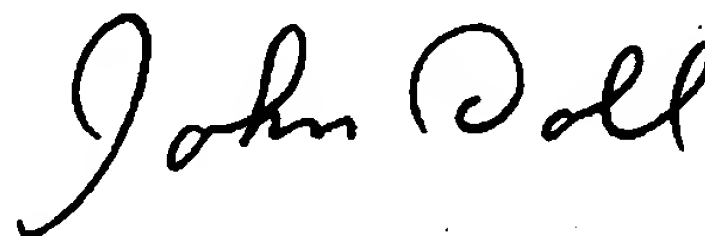Line 50, change "construct" to --to construct--
Line 61, change "biological" to --checking biological--

Column 25
Line 10, change "embodiments in" to --embodiments--

Signed and Sealed this

Seventeenth Day of February, 2009

JOHN DOLL
Acting Director of the United States Patent and Trademark Office